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9/12/95

Patent

P. D. File 30-2004 (4690)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Richard R. Hertzog et al.

Filed:

November 3, 1994

Serial No.:

08/333,929

Examiner:

James H. Reamer

Art Unit:

1206

For: DECOMPOSITION OF CUMENE OXIDATION PRODUCT

FAX COPY RECEIVED

AUG 23 1995

Honorable Commissioner of

Patents and Trademarks

Washington, DC 20231

37 CFR § 1.607 REQUEST BY APPLICANT  
FOR AN INTERFERENCE WITH A PATENT

The following information is provided in compliance with  
37 CFR § 1.607:

(1) Applicants respectfully request that the Examiner declare an interference between the above-identified patent application and U.S. Patent 5,254,751 which issued October 19, 1993 to Zakoshansky, expires on September 14, 2112, and is assigned to General Electric Company, Pittsfield, Massachusetts.

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**(2) Applicants present the following proposed counts:**

**Count 1: An improved method for the decomposition of cumene hydroperoxide by acidic catalyst to phenol and acetone wherein the improvement comprises decomposing cumene hydroperoxide in a non-isothermal manner in the presence of excess acetone in the amount of 10 to 100 percent acetone relative to the amount of acetone produced during the reaction.**

**Count 2: A composition comprising cumene hydroperoxide, cumene, acidic catalyst for decomposition of cumene, dicumyl peroxide, dimethylbenzyl alcohol, phenol, and acetone wherein the acetone is present in excess by an amount of 10 to 100 percent acetone relative to the amount of acetone produced during the reaction.**

**Count 3: An improved method for enhancing the decomposition of cumene hydroperoxide and producing cumene hydroperoxide decomposition products therefrom wherein the improvement comprises recycling the cumene hydroperoxide decomposition products in a cumene hydroperoxide back-mixed decomposition reactor in sufficient quantity whereby selectivity is higher and safety of the process is improved.**

**Count 4: An improved method for enhancing the decomposition of cumene hydroperoxide to phenol and acetone wherein the improvement comprises introducing additional water into the cumene hydroperoxide decomposition reactor.**

**Count 5: A cumene hydroperoxide decomposition mass produced from the reaction of cumene hydroperoxide with an acid catalyst in a non-isothermal manner having acetone present in excess by an amount of 10 to 100 percent acetone relative to the amount of acetone produced during the reaction.**

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**Count 6: A method for the efficient generation of recycle acetone in a process which prepares phenol and acetone from cumene comprising:**

- (a) decomposing dicumylperoxide to phenol, acetone, and alpha methyl styrene,**
- (b) feeding at least a portion of decomposition products of (a) to a separate vessel wherein operating temperature is higher or operating pressure is lower than step (a), thereby allowing acetone to evaporate,**
- (c) sending at least a portion of acetone collected from step (b) to the cumene hydroperoxide decomposition reaction.**

**(3) The claims of U.S. Patent 5,254,751 which correspond to the proposed counts are as follows:**

| <b>PROPOSED COUNT</b> | <b>CLAIM OF U.S. PATENT 5,254,751</b>                 |
|-----------------------|---|
| <b>1</b>              | <b>1 (corresponds substantially),<br/>4, and 7-10</b> |
| <b>2</b>              | <b>21 (corresponds substantially)</b>                 |
| <b>3</b>              | <b>32 (corresponds substantially),<br/>33, and 34</b> |
| <b>4</b>              | <b>37 (corresponds exactly)</b>                       |
| <b>5</b>              | <b>38 (corresponds substantially)</b>                 |
| <b>6</b>              | <b>39 (corresponds exactly)</b>                       |

**Claim 1 differs from proposed count 1 as follows. Claim 1 recites (a) "whereby the molar ratio of acetone to phenol in a decomposition reactor is from about 1.1:1 to 1.5:1" and (b) "whereby the rate of decomposition of cumene hydroperoxide is reduced and the reaction is more controllable and more selective" while proposed count 1 recites "in the amount of 10 to 100 percent acetone relative to the amount of acetone produced during the reaction". Since phenol and acetone are produced in substantially equimolar amounts, limitation (a) corresponds**

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to "10 to 50 percent acetone". The claimed invention with limitation (b) is the same patentable invention as the invention of proposed count 1.

Claim 21 differs from proposed count 2 as follows. Claim 21 recites "in a molar ratio to phenol of from about 1.1:1 to 1.5:1" while proposed count 2 recites "present in excess by an amount of 10 to 100 percent acetone relative to the amount of acetone produced during the reaction". Since phenol and acetone are produced in substantially equimolar amounts, the molar limitation corresponds to "10 to 50 percent acetone".

Claim 32 differs from proposed count 3 as follows. Claim 32 recites "to a cumene hydroperoxide feedstream in the quantity of from about 10-25 times the weight of the cumene hydroperoxide feedstream" while proposed count 3 recites "in a cumene hydroperoxide back-mixed decomposition reactor in sufficient quantity". Downstream reaction products are recycled back to a point of introduction of the feedstream in a back-mixed reactor.

Claim 38 differs from proposed count 5 as follows. Claim 38 recites "an acetone to phenol mole ratio of about 1.1 to 1 to 1.5 to 1" while proposed count 5 recites "acetone present in excess by an amount of 10 to 100 percent acetone relative to the amount of acetone produced during the reaction". Since phenol and acetone are produced in substantially equimolar amounts, the molar limitation corresponds to "10 to 50 percent acetone".

(4) The pending claims of the above-identified patent application which were added in a Preliminary Amendment dated February 28, 1994 and correspond to the proposed counts are as follows:

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| PROPOSED COUNT | CLAIM OF APPLICATION                                  |
|----------------|---|
| 1              | 9 (corresponds exactly), 1, 2, 7, 8, 10-14, and 22-25 |
| 2              | 15 (corresponds exactly)                              |
| 3              | 16 (corresponds exactly), 17, and 18                  |
| 4              | 19 (corresponds exactly)                              |
| 5              | 20 (corresponds exactly)                              |
| 6              | 21 (corresponds exactly)                              |

U.S. Patent 5,254,751 to Zakoshansky resulted from Serial 07/944,688 filed September 14, 1992. The above-identified patent application is a continuation of Serial 08/203,845 filed February 28, 1994 which is a continuation of Serial 07/920,811 filed July 24, 1992 which is a continuation of Serial 07/297,333 filed January 17, 1989. Thus, because the above-identified patent application was filed in the US Patent and Trademark Office more than three years before Serial 07/944,688 was filed, Applicants believe that they are entitled to a judgment relative to the patentee.

Under MPEP §2308.03, when a patent has an effective U.S. filing date which is later than the effective filing date of an application and the application and patent contain claims to the same patentable invention, the Examiner should take steps to institute an interference between the application and the patent in order to avoid the issuance of two patents to the same patentable invention. Aelony v. Arni, 192 U.S.P.Q. 486 (C.C.P.A. 1977).

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Applicants invite the Examiner's attention to 37 CFR §1.607(b) and 37 CFR §1.607(d). 37 CFR §1.607(b) provides in relevant part: "When an applicant seeks an interference with a patent, examination of the application ... shall be conducted with special dispatch within the Patent and Trademark Office." 37 CFR §1.607(d) provides that a notice that the applicants are seeking to provoke an interference with the patent should be placed in the file of the patent and a copy of the notice sent to the patentee -- without, of course, identifying the applicants or their assignee.

Respectfully submitted,

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